

Duration: 120 Mins

Total Marks: 78

ID: ITISKILL33244K

Student Name: _____ Roll No: _____

1. Which statement is correct according to ohm's law?

- A) $I = R/V$ B) $I = R$
 C) $I = 1/V$ D) $I = V/R$

2. Which machine converts mechanical energy into electrical energy?

- A) Heater B) Battery
 C) Iron box D) Generator

3. What is the force with which a body is attracted by the earth towards its centre?

- A) Volume B) Density
 C) Weight D) Mass

4. What is the length of each part is a copper wire of 225 metre long is cut into 900 equal parts?

- A) 0.25 metre B) 0.23 metre
 C) 0.29 metre D) 0.28 metre

5. What is the specific gravity of the solid, if density of the solid is 19.5 g/cm^3 ?

- A) 19 B) 8
 C) 18.5 D) 19.5

6. How many millimetres are there in 1 inch?

- A) 24.5 mm B) 2.54 mm
 C) 2.45 mm D) 25.4 mm

7. What is the volume (V) of mercury in cm^3 , if mass (m) of mercury is 1 kg and density (r) is 13.6 g/cm^3 ?

- A) 73.23 cm^3 B) 73.43 cm^3
 C) 73.33 cm^3 D) 73.53 cm^3

8. Which is very good conductor?

- A) Steel B) Copper
 C) Cast iron D) Wrought iron

9. Which is same in series connection of resistors in a circuit?

- A) Power B) Current
 C) Resistance D) Voltage

10. Which is the unit of current?

- A) Watt B) Volt
 C) Ohm D) Ampere

11. What is the voltage? $R = 250 \text{ Ohms}$ $I = 0.44 \text{ Amps}$ $V = \text{_____Volts}$

- A) 105 Volts B) 110 Volts
 C) 100 Volts D) 108 Volts

12. What is the unit of intensity of magnetic field?

- A) Hertz B) Coloumb
 C) wb/m D) m/wb

13. What is the block weighs (W) in kg, if volume (V) is 320 cm^3 and density 8.9 g/cm^3 ?

- A) 2.848 kg B) 2.948 kg
 C) 2.648 kg D) 2.448

14. What does EMF stands for?

- A) Electronic Magnetic Force B) Electromated Force
 C) Electro Magnetic Force D) Electro Motive Force

15. A motor cycle tyre is sold for Rs 300/- what is the purchase price if 25% profit is added to it.

- A) Rs 240 B) Rs 220
 C) Rs 260 D) Rs 200

16. Wha is the mass if the density of a body is 7.6 g/cm^3 and its volume is 25 cm^3 ?

- A) 210 grams B) 200 grams
 C) 190 grams D) 220 grams

17. How much voltage will be required to illuminate a 40 watts fluorescent lamp draws a current of 0.10 amperes?

- A) 390 volts B) 405 volts
 C) 395 volts D) 400 volts

18. What is the formual for induced emf?

- A) $B^2 > V \sin q$ volts
B) $BLV \sin q$ volts
C) $B^2 > L \sin q$ volts
D) $BL \sin q$ volts

19. What is the length L_2 , if total length (L) is 2.75 metre and $L_1:L_2 = 2:3$?

- A) 1.1 metre
B) 1.65 metre
C) 1.25 metre
D) 1.75 metre

20. What is the x value for $x^2 + 62 = 126$?

- A) 6
B) 8
C) 4
D) 10

21. How much watt second in 1 watt hour?

- A) 1000 watt sec
B) 3600 watt sec
C) 4000 watt sec
D) 2000 watt sec

22. What is the total resistance if two resistances of 4 ohms and 6 ohms are connected in parallel?

- A) 10
B) 4
C) 5
D) 2.4

23. What is the square root of decimal number 550.37?

- A) 22.46
B) 22.26
C) 23.46
D) 21.26

24. Convert decimal 0.000659 to fraction?

- A) $(659/100000)$
B) $(659/1000000)$
C) $(659/10000)$
D) $(659/1000)$

25. What is the specific gravity of the metal, if it weighs 6.5 kgf in air and 3.5 kgf in water?

- A) 1.166
B) 3.166
C) 6.166
D) 2.166

26. Convert 52% into fraction?

- A) $(11/25)$
B) $(13/25)$
C) $(9/25)$
D) $(17/25)$

27. What denotes letter M in MKS system?

- A) Mile
B) Meter
C) Millimeter
D) Micron

28. What is termed as the quantity of matter contained in a body?

- A) Volume
B) Mass
C) Specific gravity
D) Density

29. What is the resistance? $I = 11.5$ Amps $V = 380$ Volts $R = \underline{\hspace{2cm}}$ Ohms

- A) 43 ohms
B) 13 ohms
C) 33 ohms
D) 23 ohms

30. What is the resistance of an electric iron if the rating of electric iron is 220 V and 500 watts?

- A) 94.8 ohms
B) 97.8 ohms
C) 96.8 ohms
D) 95.8 ohms

31. Which law states that at constant temperature the current passing through a closed circuit is directly proportional to the potential difference and inversely proportional to the resistance?

- A) Newton's law
B) Ohm's law
C) Hooke's law
D) Lenz's law

32. What are fundamental units?

- A) Length, Mass, Volume
B) Length, Mass, Area
C) Length, Mass, Time
D) Length, Pressure, Volume

33. What is called the ratio between the density of a substance and the density of water at 4 Degree Centigrade?

- A) Weight
B) Mass
C) Specific gravity
D) Density

34. Convert 0.456 decimal fraction into percentage?

- A) 0.0456
B) 0.456
C) 0.000456
D) 45.6

35. What is the square root of 529?

- A) 33
B) 23
C) 12
D) 43

36. What is the square root of 0.017?

- A) 0.001
B) 0.00001
C) 0.000001
D) 0.13

37. What is the LCM of 12, 18, 6, 36?

- A) 36
B) 42
C) 12
D) 18

38. What will be the rpm of smaller gear if a 180 mm dia meshes with 60 mm dia gear and the bigger gear makes 60 rpm?

- A) 140 rpm
B) 180 rpm
C) 160 rpm
D) 120 rpm

39. Which is the unit of resistance?

- A) Ampere
- C) Volt

- B) Watt
- D) Ohm

- A) Power
- C) Current

- B) Voltage
- D) Resistance

40. How much power does it consumes if an electric heater draws a current of 10 amps at 200 volts?

- A) 2020 watts
- C) 2030 watts
- B) 2010 watts
- D) 2000 watts

41. What is the filament resistance if a 6 volt bulb draws a current of 0.5 Amps?

- A) 1.2 W
- C) 10 W
- B) 3 W
- D) 12 W

42. What is the ratio of 4 kg to 800 grams?

- A) 08:04
- C) 02:04
- B) 04:08
- D) 05:01

43. What is the decimal fraction of conversion of 18.5%?

- A) 0.195
- C) 0.165
- B) 0.175
- D) 0.185

44. Which is the unit electrical power?

- A) Ohms
- C) Watts
- B) Volts
- D) Ampere

45. Simplify: $(17.49 \times 5.2) / (6.5)$

- A) 13.99
- C) 13.89
- B) 13.79
- D) 13.69

46. What is the density of aluminium?

- A) 2.7 g/cm^3
- C) 3.7 g/cm^3
- B) 4.7 g/cm^3
- D) 5.7 g/cm^3

47. How much is 8% of 40 kg?

- A) 2.2 kg
- C) 3.2 kg
- B) 4.2 kg
- D) 5.2 kg

48. What is the definition of ratio?

- A) Inequality between two ratios
- C) Relation of two quantities of the same kind
- B) Relation of two quantities of the different kind
- D) Equality between two ratios

49. What is the specific gravity of the metal, if the piece of metal weighs 150 grams in air and 125 grams in water?

- A) 10
- C) 15
- B) 25
- D) 6

50. What is the flow of electrons in any conductor?

51. How many days a mechanic takes to assemble 64 machines if he assembles 8 machines in 3 days?

- A) 24 days
- C) 26 days
- B) 20 days
- D) 22 days

52. How many hours will take for a 100 watts bulb to consume 1 kwh energy? $W = 1 \text{ Kwh}$ $P = 100 \text{ Watts}$ $t = \text{_____Hours}$

- A) 24 hours
- C) 18 hours
- B) 10 hours
- D) 12 hours

53. Which is the example for statically induced emf?

- A) Transformer
- C) Generator
- B) Motor
- D) Refrigerator

54. Divide $(20/31) / (15/62)$

- A) $2(1/3)$
- C) $2(3/2)$
- B) $2(2/3)$
- D) $2(4/3)$

55. What percentage of 80 is 20?

- A) 0.8
- C) 0.25
- B) 0.2
- D) 0.4

56. Which is the example for dynamically induced Emf?

- A) Motor bike
- C) Generator
- B) Car
- D) Motor

57. Which property of a substance is opposing the flow of electric current?

- A) EMF
- C) Voltage
- B) Current
- D) Resistance

58. What is the percentage of copper if the casting weight of copper 42.3 kg and tin weight 2.7 kg?

- A) Cu 98%
- C) Cu 94%
- B) Cu 92%
- D) Cu 96%

59. What is the density (ρ) in g/cm^3 of an iron cube, if it weighs (W) 4.8 kg and volume (V) is 640 cm^3 ?

- A) 6.9 g/cm^3
- C) 6.6 g/cm^3
- B) 7.2 g/cm^3
- D) 7.5 g/cm^3

60. What is the total resistance if three resistances of 3 ohms, 9 ohms and 5 ohms are connected in series?

- A) 17 ohms
- C) 7 ohm
- B) 11 ohms
- D) $1/17$ ohms

61. What is the mass in gram, if a force of 15 dynes acting on a mass m producing an acceleration of 2.5 cm/sec^2 ?

- A) 6 grams
B) 9 grams
C) 7 grams
D) 8 grams

62. What is the product of 0.003×0.5 ?

- A) 0.15
B) 0.00015
C) 0.015
D) 0.0015

63. What are the two classifications of system of units?

- A) Gravitational and non-gravitational
B) Metric and International
C) Fundamental and derived
D) British and Metric

64. What is the voltage of the immersion heater? $P = 500 \text{ watts}$ $I = 2.27 \text{ Amps}$ $V = \text{_____Volts}$

- A) 220.3 volts
B) 210.3 volts
C) 230.3 volts
D) 200.3 volts

65. What is the improper fraction for the given mixed fraction $7 \frac{3}{7}$?

- A) $\frac{7}{52}$
B) $\frac{28}{7}$
C) $\frac{52}{7}$
D) $\frac{7}{28}$

66. What is the volume of mercury in cm^3 , if the mass (m) of mercury is 136 grams (g) and density (r) of mercury is 13.6 g/cm^3 ?

- A) 136 cm^3
B) 10.0 cm^3
C) 13.6 cm^3
D) 10.6 cm^3

67. What is the current Flow in the bulb? $P = 550 \text{ watts}$ $R = 22 \text{ Ohms}$ $I = \text{_____Amps}$

- A) 3 Amps
B) 5 Amps
C) 2 Amps
D) 4 Amps

68. What is called mass per unit volume of a substances?

- A) Volume
B) Weight
C) Density
D) Mass

69. What is the power required? $I = 0.455 \text{ Amps}$ $R = 484 \text{ Ohms}$ $P = \text{_____Watts}$

- A) 98.2 watts
B) 99.2 watts
C) 101.2 watts
D) 100.2 watts

70. What is the weight force of a car has a mass of 800 kg?(Take $g = 9.81 \text{ m/sec}$)

- A) 7487 Newton
B) 7847 Newton
C) 7748 Newton
D) 7848 Newton

71. What is the current? $R = 50 \text{ Ohms}$ $V = 220 \text{ Volts}$ $I = \text{_____Amps}$

- A) 4.4 Amps
B) 4.1 Amps
C) 4.2 Amps
D) 4.3 Amps

72. Simplify: $(\frac{3}{4}) + (\frac{2}{5}) - (\frac{5}{20})$

- A) $(\frac{9}{10})$
B) $(\frac{3}{10})$
C) $(\frac{12}{10})$
D) $(\frac{13}{10})$

73. What is the rated power if an adjustable resistor bears the following label $1.5 \text{ k ohms} / 0.08 \text{ A}$?

- A) 9.4 watts
B) 9.6 watts
C) 9.8 watts
D) 9.2 watts

74. Which law states about electromagnetic induction?

- A) Lenz's law
B) Hooke's law
C) Ohm's law
D) Faraday's law

75. What is the power if an emf of one volt causes a current flow of 1ampere?

- A) 1 HP
B) 1 kilowatt
C) 1 watt
D) 1 Kilowatt hour

76. Which is equal to electric power?

- A) $R^2 I$ watts
B) IR
C) RI
D) $I^2 R$ watts

77. What is the HCF of 18, 42, 24?

- A) 24
B) 6
C) 18
D) 2

78. Which is mineral insulator

- A) Porcelain
B) Mica
C) Glass
D) Quartz